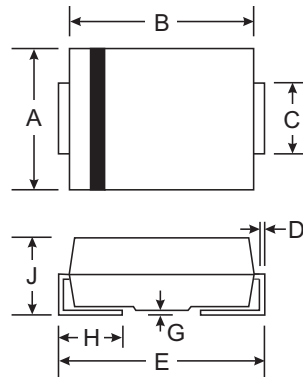


### Features

- Metal-Semiconductor junction with guard ring
- Epitaxial construction
- Low forward voltage drop
- High current capability
- The plastic material carries UL recognition 94V-0
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications



| SMC                  |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 5.59 | 6.22 |
| B                    | 6.60 | 7.11 |
| C                    | 2.75 | 3.18 |
| D                    | 0.15 | 0.31 |
| E                    | 7.75 | 8.13 |
| G                    | 0.10 | 0.20 |
| H                    | 0.76 | 1.52 |
| J                    | 2.00 | 2.62 |
| All Dimensions in mm |      |      |

### Mechanical Data

- Case Molded Plastic
- Polarity: Color band denotes cathode
- Weight: 0.007 ounces, 0.21 grams

### Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| CHARACTERISTICS   | SYMBOL     | SS52        | SS53 | SS54 | SS55 | SS56 | SS58 | SS510                     | UNIT             |
|---|------------|-------------|------|------|------|------|------|---------------------------|------------------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$  | 20          | 30   | 40   | 50   | 60   | 80   | 100                       | V                |
| Maximum RMS Voltage   | $V_{RMS}$  | 14          | 21   | 28   | 35   | 42   | 56   | 70                        | V                |
| Maximum DC Blocking Voltage   | $V_{DC}$   | 20          | 30   | 40   | 50   | 60   | 80   | 100                       | V                |
| Maximum Average Forward Rectified Current<br>0.375" (9.5mm) Lead Lengths @ $T_L = 95^\circ\text{C}$               | $I_{(AV)}$ | 5.0         |      |      |      |      |      |                           | A                |
| Peak Forward Surge Current<br>8.3ms Single Half Sine-Wave<br>Super Imposed on Rated Load (JEDEC Method)           | $I_{FSM}$  | 150         |      |      |      |      |      |                           | A                |
| Maximum Forward Voltage at 5.0A DC  | $V_F$      | 0.45        | 0.55 | 0.6  | 0.7  |      | 0.85 |                           | V                |
| Maximum DC Reverse Current @ $T_J = 25^\circ\text{C}$<br>at Rated DC Blocking Voltage @ $T_J = 100^\circ\text{C}$ | $I_R$      | 1.0<br>50   |      |      |      |      |      |                           | mA               |
| Typical Junction Capacitance (Note1)  | $C_J$      | 500         |      |      | 350  |      |      | pF                        |                  |
| Typical Thermal Resistance (Note2)  | $R_{JA}$   | 15          |      |      | 10   |      |      | $^\circ\text{C}/\text{W}$ |                  |
| Operating Temperature Range   | $T_J$      | -55 to +150 |      |      |      |      |      |                           | $^\circ\text{C}$ |
| Storage Temperature Range   | $T_{STG}$  | -55 to +150 |      |      |      |      |      |                           | $^\circ\text{C}$ |

NOTES: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC

2. Thermal resistance junction to ambient,



FIG. 1 – FORWARD CURRENT DERATING CURVE

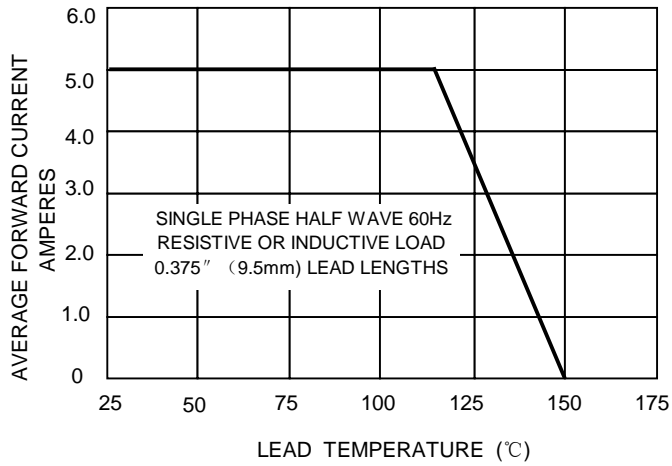


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

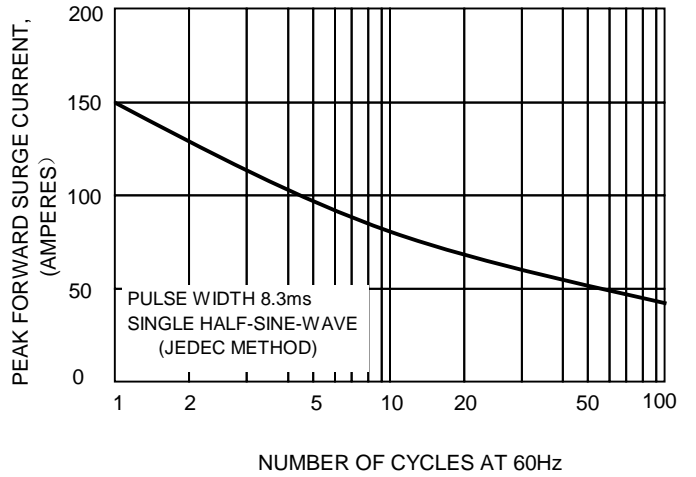


FIG.3 – TYPICAL JUNCTION CAPACITANCE

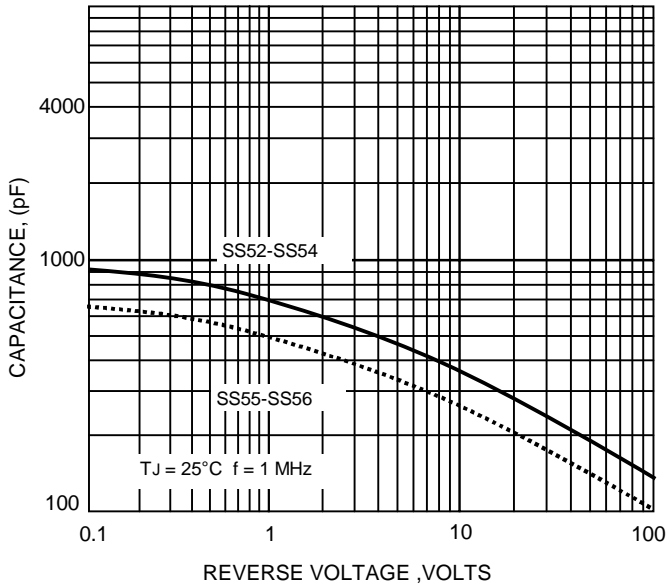


FIG.4-TYPICAL FORWARD CHARACTERISTICS

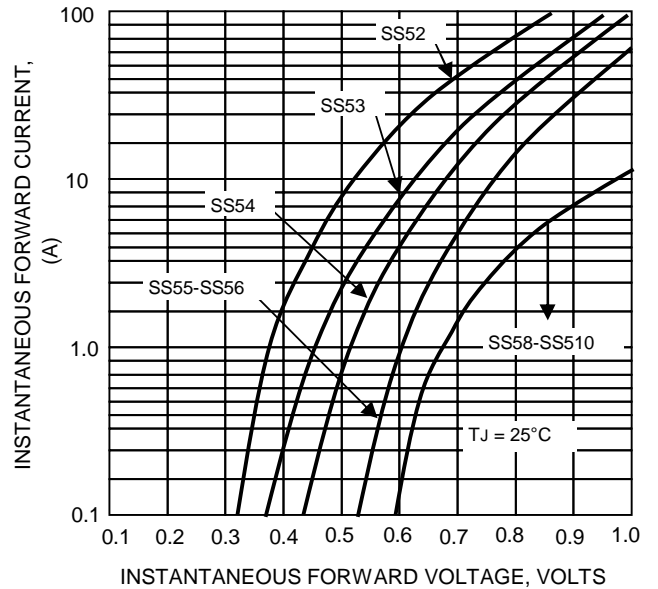


FIG.2-TYPICAL REVER CHARACTERISTICS

